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A STUDY OF THE EFFECTIVENESS OF A PROGRAMED LEARNING METHOD IN TEACHING THE USE OF "WEBSTER'S SEVENTH NEW COLLEGIATE DICTIONARY."

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A POST-TEST WAS USED TO COMPARE THE EFFECTIVENESS OF TWO METHODS OF TEACHING THE USE OF "WEBSTER'S SEVENTH NEW COLLEGIATE DI[redacted]RY." STUDENTS IN ONE SECTION OF A READING AND VOCABULARY DEVELOPMENT COURSE WERE GIVEN A PROGRAMED LEARNING SEQUENCE FOR STUDYING DICTIONARY USAGE AND WERE TOLD THAT THEY WOULD BE TESTED PERIODICALLY ON THE MATERIAL IN THE DICTIONARY'S EXPLANATORY NOTES AND ON THE PROGRAM CONTENT. IN ANOTHER SECTION STUDENTS WERE TOLD ABOUT THE TESTS, AND, ON THE DAY BEFORE THE TEST, THE INSTRUCTOR DISCUSSED THE MATERIAL TO BE COVERED IN THE EXAMINATION. IN FOUR OF THE 11 TESTS, SCORES OF THE EXPERIMENTAL (PROGRAMED) GROUP SIGNIFICANTLY EXCEEDED THOSE OF THE CONTROL (CONVENTIONAL) GROUP, WHILE THE CONVENTIONAL GROUPS DID BETTER ON ONE TEST AND NO SIGNIFICANT DIFFERENCES APPEARED ON THE OTHER SIX TESTS. ON THE BASIS OF THE RESULTS, PROGRAMED INSTRUCTION BECAME THE ACCEPTED MEDIUM FOR INSTRUCTION IN DICTIONARY USAGE IN THESE CLASSES. THIS DOCUMENT IS VOLUME 3, NUMBER 2 OF "THE GENERAL COLLEGE STUDIES," 1966-67. (WO)

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A STUDY OF THE EFFECTIVENESS OF A PROGRAMED LEARNING METHOD IN TEACHING THE USE OF WEBSTER'S SEVENTH NEW COLLEGIATE DICTIONARY

William A. Stockdale

Struggles to improve teaching methods and techniques in education seldom result in major victories; it is usually the case, rather, that success is measured in terms of the outcomes of minor skirmishes. From the cumulative contributions of many who strive for the same end, progress is slowly and painfully realized.

These generalizations are evoked by a perusal of the report which comprises this issue of The General College Studies. As Professor Stockdale notes in the report, his motive for experimenting with programed learning techniques derived from a need to develop an efficient means to deal with a small though vital segment of a course in order to free some time for other activities. His attempt to improve the teaching methods of the course led to action: a modest experiment was designed, complete with experimental and control groups, and an evaluation of the result was made. On the basis of the evaluation, a possible revision of the course content was educed; that revision is embodied in the recommendation that concludes Professor Stockdale's report.

It is appropriate to note here that, as a direct result of this study, Professor Stockdale's recommendation has been implemented to the extent that General College students who enroll in courses in which the dictionary is required learn how to use their dictionaries by means of an auto-instructional program. Thus, in the language of the report, "additional classroom hours can be made available" for other activities.

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Purpose of the Study

The study was conducted to determine the comparative effectiveness of two methods of teaching the use of Webster's Seventh New Collegiate Dictionary. One of these methods of instruction was experimental: the use of the dictionary taught by means of a series of programed learning frames; the other was conventional; explication by an instructor of the "Explanatory Notes" prefacing Webster's Seventh New Collegiate Dictionary.

Experimental Population

Eighty-four General College students enrolled in two sections of GC 30A, Reading and Vocabulary Development, participated in the study. The study was conducted in the General College of the University of Minnesota during Fall Quarter of 1963.

Procedures in Conducting the Study

The experimental section consisting of 45 students received no classroom instruction in the use of the dictionary. The students were shown how to use Exploring WEBSTER'S SEVENTH NEW COLLEGIATE DICTIONARY: A Programed Learning Sequence and were told that at specific intervals during the quarter they would be tested on the material covered by both the program and the "Explanatory Notes" in the dictionary. The conventional section consisting of 39 students did not receive the programed learning sequence. The students were told that at specific intervals during the quarter they would be given tests over most of the subdivisions in the dictionary's "Explanatory Notes." The day before a test was to be given, the instructor would discuss with the students the material to be covered by the test. He would both explain the material to them in an informal lecture and give them the opportunity to ask questions about the material. The same tests--eleven of them--were given to the two sections participating in the study.

Though the two sections of GC 30A met five days a week, Monday through Friday, it should be borne in mind that the use of the dictionary constituted just one of three units in the course. In the experimental section the only class time devoted to the unit on the use of the dictionary was the time required for administering the tests. In the conventional section approximately one hour--in addition, of course, to the time required for administering the tests--was spent in explaining and discussing the use of the dictionary.

Measuring Instruments

Eleven tests were designed to cover most of the topics discussed in the "Explanatory Notes" of Webster's Seventh New Collegiate Dictionary.

DICTIONARY TESTS

Test	Test Title	Possible Score
1	The Main Entry	25
2	Pronunciation	20
3	Functional Labels	20
4	Inflectional Forms	30
5	Capitalization and Attributive Nouns	35
6	Etymology	34
7	Labels	38
8	Symbolic Colon and Sense Division	23
9	Verbal Illustrations and Usage Notes	23
10	Cross References	40
11	Run-on Entries, Synonymies, Combining Forms	20

Experimental Results

The statistical data (see Appendix) reveals that the students in the conventional treatment-group significantly out-performed the experimental treatment-group on Test 2 (Pronunciation). On the other hand, the experimental treatment-group significantly out-performed that conventional treatment-group on Tests 4 (Inflectional Forms), 5 (Capitalization and Attributive Nouns), 7 (Labels), and 9 (Verbal Illustrations and Usage Notes). No significant differences in accomplishment of the two treatment, groups appeared in the remainder of the tests.

Conclusion

Because of the several variables to be found in the design of this study, any conclusion stated here must have an element of tentativeness about it. Nonetheless, it can reasonably be assumed that the programed learning method used in teaching the use of Webster's Seventh New Collegiate Dictionary is at least as effective--and probably even more effective--than conventional methods of instruction.

Recommendation

It is recommended that the programed learning method be employed in GC 30A to teach the use of Webster's Seventh New Collegiate Dictionary. The programed learning method of teaching the use of the dictionary is at least as effective as conventional classroom instruction; and furthermore, since the programed learning method requires no classroom time, additional classroom hours can be made available for instruction in the reading and vocabulary units of the course.

Appendix
Analysis of Variance

	Means			Standard deviation		
Test	Experimental	Conventional	t value	Experimental	Conventional	F Ratio
1	21.2	19.7	1.73	3.5	4.4	.61
2	15.1	17.1	-2.56*	3.9	2.7	2.14*
3	17.4	16.9	.76	2.3	3.4	.46*
4	22.9	19.1	3.38**	4.6	5.2	.78
5	30.4	24.4	6.50**	3.9	4.4	.78
6	25.1	25.3	-.18	6.5	5.3	1.54
7	30.1	27.6	2.09*	5.8	4.8	1.42
8	15.8	16.9	-1.43	3.7	2.9	1.67
9	18.8	16.4	2.83**	3.4	4.4	.58
10	35.9	34.9	1.08	4.3	3.8	1.26
11	13.8	13.2	.92	2.7	2.4	1.25

* significant at the .05 level

** significant at the .01 level